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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,758	12/11/2003	Keith D. Weiss	11745-025	1997

7590 02/12/2007
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EXAMINER

FERGUSON SAMRETH, MARISSA LIANA

ART UNIT	PAPER NUMBER
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2854

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/734,758

Applicant(s)

WEISS ET AL.

Examiner

Marissa L. Ferguson-Samreth

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-22 and 24-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-34 is/are allowed.
- 6) ☒ Claim(s) 11-22 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-13, 15 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poulos et al. (US Patent 6,982,115).

With respect to claims 11, 12, 15 and 35, Poulos et al. teaches a graphic image layer formed by a plastisol ink transferred onto a PVC layer (22), wherein the plastisol ink has thixotropic properties (Column 4, Line 67, Column 5, Lines 1-7 and Column 6, Lines 16-26 and note claim language "for membrane transfer" is functional language). However, he does not explicitly disclose a plastic substrate and a thixotropic network magnitude of between 3×10^{-4} and 6×10^5 dynes/cm²-sec⁻¹, a thixotropic network strength of at least 35.0 gm-cm and thixotropic creep viscosity of between 8×10^2 to 9×10^4 poise and a tan ratio of at least 1 and at least 99% retention. Additionally, the language "printed by membrane image transfer on the substrate and adhered thereto with at least 99% retention to the substrate" is a recitation of the method of how the article is made and carries no patentable weight if the method results in no structural difference as compared to the other methods of making. In this case there appears to be no structural difference.

It is common knowledge that thixotropic inks have the claimed qualities such as strength, magnitude, retention and creep viscosity to form a strong-based resistant ink. Also, it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to provide and test the claimed ranges, since such a modification would result in finding the correct qualities in order to prevent running of the ink when applied to a surface of a substrate.

Regarding claim 13, Poulos et al. teaches a plastic substrate including at least a polyvinyl chloride (Column 5, Line 2).

2. Claims 14,16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poulos et al. (US Patent 6,982,115) in view of Yano (US Patent 5, 380,806).

Poulos et al. teaches the claimed invention including with the exception of a synthetic polymeric resin including at least one of a polycarbonate resin, a PVC resin, a polyester resin, an acrylic resin, a vinyl resin, a cellulosic resin, an alkyd resin, a formaldehyde derived resin, an epoxy resin, a polyurethane resin, a silicone resin, a silicate resin, an amino resin, a polyamide resin, a phenolic resin and a hydrocarbon solvent including at least one of an aliphatic hydrocarbon, an aromatic hydrocarbon, a naphthenic hydrocarbon, a chlorinated hydrocarbon, a terpene solvent, an oxygenated solvent, ketones, an ester, a glycol ether, an alcohol, an acetate, a nitroparaffin, a furan, and a thixotrope including at least one of a castor oil derivative, a high density polyolefin, an attapulgite, a montmorillonite, a fumed silica, a fibrated mineral, a

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calcium sulphonate derivative, a polyamide resin, polyester amide, an alkyds, an oil-modified alkyd, an ionic surfactant agent, or a non-ionic agent.. Yano teaches an ink with a thixotropic agent consisting of a silica powder, a polymeric resin consisting of at least epoxy resin and a hydrocarbon solvent consisting of at least ester and alcohol (Column 5, Line 25, Column 6, Lines 48-52 and Line 68 and Column 7, Line 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention as taught by Poulos et al. to include the ink with polymeric resin, hydrocarbon solvent and silica thixotrope as taught by Yano, since Yano teaches that it is advantageous to improve printability, adhesive properties, flexibility, heat resistance and optimize viscosity.

3. Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poulos et al. (US Patent 6,982,115) in view of Yano (US Patent 5, 380,806) as applied to claim 14 above, further in view of Komori et al. (US Patent 4,835,576) and Al'Hariri (US Patent 4,910,070).

Regarding claims 19 and 22, Poulos et al. and Yano both teach the invention claimed with the exception of an ink comprising a pigment disposed in the ink for opacity or color, an additive to disperse the pigment the additive including a surfactant, a dispersant, or mixtures thereof and a catalyst to initiate cross-linking between polymer chains in the resin. Komori et al. teaches an ink containing an opaquing pigment and a surfactant (Column 9, Lines 57-65).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention as taught by Poulos et al. in view of Yano to replace the ink thereof with an ink with an opaque pigment as taught by Komori et al., since Komori et al. teaches that it is advantageous to provide light-transmissible and/or reflectable areas for constituting an image on a lith type film.

However, he does not disclose a catalyst including at least one of an isocyanate, a metal drier, an acid, a base or a peroxide. Al'Hariri teaches an acid catalyst for use in polymer inks for initiating cross-linking (Column 4, Lines 3-7, Lines 34-40 and Column 5, Lines 23-25).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention as taught by Poulos et al. in view of Yano to replace the ink thereof with an ink with a catalyst as taught by Al'Hariri to provide a more aesthetically pleasing appearance.

4. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poulos et al. (US Patent 6,982,115) in view of Yano (US Patent 5,380,806), Komori et al. (US Patent 4,835,576) and Al'Hariri (US Patent 4,910,070) as applied to claim 19 above, and further in view of Ou-Yang (US Patent 6,780,460).

Poulos et al., Yano, Komori et al. and Al'Hariri all teach the claimed invention with the exception of wherein an ink includes a pigment consisting of a silica and aluminum (Column 9, Lines 26-29). It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention as taught by Poulos et al. in view of Yano, Komori et al. and Al'Hariri to replace the ink

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thereof with an ink with a catalyst as taught by Ou-Yang to increase sharpness of an image.

5. Claims 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poulos et al. (US Patent 6,982,115) in view of Yano (US Patent 5,380,806), Komori et al. (US Patent 4,835,576), Al'Hariri (US Patent 4,910,070) as applied to claim 19 above, and further in view of Fry (US Patent 5,456,743).

Poulos et al., Yano, Komori et al., and Al'Hariri all teach the claimed invention with the exception of a surfactant including at least one of the following a metallic soap, a sulfonate, a phosphate ester, a fatty acid ester, a fluoroaliphatic polymeric ester, a titanate coupling agent, a zirconate coupling agent, an aluminate coupling agent, an organomodified polysiloxane, a block copolymers of poly(alkylene oxide), a hyperdispersants, a base neutralized fatty alcohol sulfate, a polyamino-amide phosphate, or carboxylic acid. Fry teaches a fatty acid surfactant (Column 7, Lines 56-59). It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention as taught by Poulos et al. in view of Yano, Komori et al. and Al'Hariri to replace the ink thereof with an ink with fatty acid ester surfactant as taught by Fry, since Fry teaches that it is advantageous to reduce the melt viscosity and release air trapped by the powdery components of the ink composition.

Allowable Subject Matter

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6. Claims 24-34 allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 24, the prior art does not teach or render obvious a method of transferring a membrane image by membrane image transfer to a substrate comprising applying a printed decoration of the ink through a screen to a membrane, defining the membrane image on the membrane, forming the membrane to the geometry of the surface of the substrate, adhering the membrane image to the substrate by pressing the membrane and the substrate together in forced contact, maintaining pressure between the membrane and the substrate to transfer the membrane image from the membrane to the substrate and separating the membrane from the substrate.

Response to Arguments

7. Applicant's arguments with respect to claims 11-22 and 24-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marissa L. Ferguson-Samreth whose telephone number is (571) 272-2163. The examiner can normally be reached on (M-T) 6:30am-4:00pm and every other (F) 7:30am-4:00.

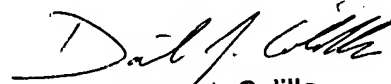
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marissa L Ferguson-Samreth
Examiner
Art Unit 2854

MFS


Daniel J. Colilla
Primary Examiner
Art Unit 2854